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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/809,575	03/15/2001	Borislav Bogdanovic	Studien 280-KGB	5896

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EXAMINER

VOLLANO, JEAN F

ART UNIT PAPER NUMBER

1621

DATE MAILED: 04/02/2002

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Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/809,575

Applicant(s)

BOGDANOVIC ET AL.

Examiner

Jean F. Vollano

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 8.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: .

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### DETAILED ACTION

1. The amendment and the IDS filed 2/14/2002 has been entered. Claims 1-24 are pending.
2. The rejection of claims 1-4, 15 and 19-24 under 35 U.S.C. 112, first paragraph is maintained for reasons of record.
3. The rejection of claim 1 under 35 USC 112, paragraph 2 is withdrawn. The rejection of claim 15 is maintained. Applicant states that since the claim "expressly provides that the cocatalysts are "additionally employed," which suggests that they are up and beyond the transition metal catalyst and additional catalyst component recited in claim 1". This is still unclear if they are not described in claim 1 then what constitutes these additional cocatalysts? Where do they come from and what are their metes and bounds? The claim is very confusing as written. Does this mean that the co catalysts are different from all the catalyst components found in claim 1? Or are the co catalysts just additional catalyst components beyond the initial addition of a catalyst component or are they completely different ? The rejection of claim 16 is maintained since there seems to be no definition of what is a cocatalyst and it seems that the halide of the 1st period and 2nd main group metal are both found in claim 1 but an ammonium halide is not nor is an organoammonium halide defined as a catalyst component or a co catalyst etc. It still is unclear whether the cocatalysts are already found in claim 1 or they are different since claim 16 has some

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as found in claim 1 and others that are not. The claim is still confusing and seems to lack antecedent basis. If it doesn't lack antecedent basis it is unclear as to what is being claimed. Therefore the rejection is maintained for claims 15-17 and withdrawn for claims 1-14 and 18-24 for the 112, 2 rejections cited in the previous office action..

4. The rejection of claims 1, 3-5, 8-9, 16 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-2 and 6 of U.S. Patent No. 6,117,372 is maintained. Applicant argues unexpected results. However the way that claim 1 is worded the in the instant invention the claim reads on a transition metal chloride from group 3-11 and as a catalyst component the group 2 element can be magnesium and the group 17 element can be chloride and therefore reads on magnesium chloride. A transition metal chloride with a magnesium chloride. Since there is no limitation on the interaction of a) and b) the claim reads on the compound found in claim 2 of US 6,117,372 which fulfils the requirements found in instant claim 1. Therefore as claim 1 now reads the rejection is maintained. The claim 2 in US 6117372 meets the limitation of the catalyst compound and catalyst component (there is nothing that precludes them from being in the same compound). As for the showing of unexpected results the showing is not commensurate in the least with what is being claimed.

5. The rejection of claims 1-6, 8-9, 15-20 under 35 U.S.C. 102(b) as being anticipated by Bogdanovic et al (DE 19628159) is maintained for reasons of record.

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6. The rejection of claims 1, 9-13 and 20-24 under 35 U.S.C. 103(a) as being unpatentable over Bogdanovic et al (DE 19628159) in view of Chem abs 246 (CA:76:121246), Chem abs 789 (CA:77:164789) and Chem abs 844 (CA:114:42844) is maintained for reasons of record.

7. The rejection of claims 1-2, 5-6, 15, and 19 under 35 U.S.C. 103(a) as being unpatentable over Ramsden (US 2,777,885) is maintained for reasons of record.

8. The rejection of claims 1 and 20-24 under 35 U.S.C. 103(a) as being unpatentable over Ramsden in view of Chem abs 246 (CA:76:121246) and Chem abs 523 (CA:80:133523), Chem abs 789 (CA:77:164789) and Chem abs 844 (CA:114:42844) are maintained for reasons of record.

***Claim Rejections - 35 USC § 112***

9. Claims 1-24 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 1 recites the limitation of “an activity-enhancing amount of an additional catalyst component”. The examiner cannot find support for the phrase “an activity-enhancing amount”

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and Applicant has not stated where in the specification there is support for this limitation.

Therefore the limitation is considered new matter and should be removed.

10. Claims 1-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation of “an additional catalyst component”. There is no other catalyst “component” mentioned in the claim and it is unclear why this is an “additional” catalyst “component”. Is the component an additional compound? Or is the component part of the structure as in a metal complex?

Claim 1 recites the limitation of “an activity enhancing amount of an additional catalyst component”. This is confusing as to the metes and bounds of what is meant by “activity enhancing amount”. Does it enhance the activity of solubilizing the reaction components? Does it enhance the activity of the magnesium Grignard interaction ? Does it enhance the activity of the metal catalysts to interact with the catalyst component? Does it enhance the purity of the formation activity of the final product as a crystalline solid? Also what is the “amount” is it just enough to have any activity for whatever function the enhancement is for ? Or does the amount need to be sufficient to have an unexpected conversion of the reagent? The claim is confusing as written as to the metes and bounds of what is being claimed.

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Claim 1 recites the limitation of “one or more elements of Periodic Table groups 14, 15, 16 or 17 or hydrogen bonded to said metal”. It is unclear what is hydrogen bonded to said metal? It is not elements of group 14,15,16 or 17 since it states “or”. The claim is confusing as written as to the metes and bounds of what is being claimed. It is also noted that in the second part of the catalyst component (i.e. ii) it is unclear whether the second component is attached to compound of a metal or is an additional component like water which is an element in Group 16. The claim is written in such a confusing manner that it is unclear exactly what is being claimed as far as the catalyst component.

### ***Response to Arguments***

11. Applicant's arguments filed 2/14/2002 have been fully considered but they are not persuasive. The following is a quotation of the first paragraph of 35 U.S.C. 112:

In reference to the 35 USC 112 paragraph 1 rejection Applicant argues that the previous owned US patent is only slightly less broad in scope than the instant invention and therefore this invention is enabled.

The claim 1 of US 6117372 the reaction is the preparation of the Grignard included and organic halide, a magnesium metal in an ether solvent with a catalyst prepared by reacting a metal halide (e.g. Metal Halide = Ti Cl<sub>2</sub> or Zr Cl<sub>2</sub> or V Cl<sub>3</sub> or Mn Br<sub>4</sub> etc) with magnesium wherein said transition metal is from groups 4-10. This limits the compounds to a specific

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magnesium metal halide (halide is group 17 only) or reaction product thereof. This is a small subset of the catalyst section of the compounds being claimed. There is not formation that defines a product per se. The catalyst are not just from metal halides reacting with magnesium metal. There are elements on the structure that can be any variation of any element selected from groups 14, 15, 16 or 17 bonded to the metal in any form. This is not just a little broader than the catalyst being used in the process claimed in US 6117372. This is not a direct comparison since there are more variables than just the metals being claimed.

Applicant also states that the specification provides a wealth of general details about the nature of the additional catalyst component and states that unpredictability does not satisfy the Examiner's burden of providing evidence or sound scientific reasoning. Although applicant has alleged that page 3 provides a wealth of general details it basically gives as catalysts structures in which elements selected from groups 14,15,16, or 17 bonded to the metal selected from groups 3, 4, 5, 6, 7, 8, 9, 10 or 11 are improved by a main group metal component. And that main group metals of periodic table groups 1, 2 and 13 are used in which one or more elements of periodic tables 14, 15, 16 or 17 or hydrogen are bonded to the metal. This is not a wealth of details but a generic statement of claim 1. The only examples of specific metals given are FeCl<sub>2</sub>, Co-phthalocyanine, MnCl<sub>2</sub> and the metals are given as Co, Cu, Mn, Fe in the specification. The claim is to the use of every metal in groups 3, 4, 5, 6, 7, 8, 9, 10, 10 which reads on Sc, Y, La, Ti, Zr, Hf, V, Nb, Ta, Cr, Mo, W, Mn, Tc, Re, Fe, Ru, Os, Co, Rh, Ir, Ni, Pd, Pt, Cu, Ag, and Au in combination with B, Al, Ga, In, Tl, C, Si, Ge, Sn, Pb, N, P, As, Sb, Bi.



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Unpredictability does satisfy some of the burden since it is one of the factors that must be considered when making a prima facie case for whether or not the full scope is enabled. The requirement for enablement is "The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention." This is not the case in the instant invention being claimed.

The examiner has pointed out reasons why there is a scope of enablement. The examiner has referred to different patents and catalysts which meet the limitations in the claimed subject matter, which are not specifically described in the specification, and have no reference to being used in a Grignard reaction in any prior art or current art. This would be directly related to the state of the art and what is known and not known in the catalyst art. The fact is that catalysts are unpredictable and that the state of the art is such that catalysts which are being claimed, but not disclosed in a clear concise and exact terms as to enable any person skilled in the art to make use of the invention without undue experimentation, are being suggested without foundation in the prior art or without any guidance in the specification of how to use and perform the instant process.

The examiner has presented in the previous office action of 11/15/2001, over 3 pages of sound scientific reason why there is a 112, paragraph 1, scope of enablement problem. Applicant has not directly addressed or rebutted any of the reasons given by the examiner. The reasons

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given show scope of enablement problem and the 35 USC 112, paragraph 1 rejection is maintained.

In reference to the 102(b) rejection of Bogdanovic, applicant argues that the 102 must contain every element. Applicant does not state which elements are missing from the rejection and it is the examiner's position that the wording of instant claim 1 includes every element.

Applicant also argues that Bogdanovic also lacks any teaching of an activity enhancing amount of an additional catalyst component.

There is no amount per se in grams or tons etc given in the instant claim nor is there any definition of what are the metes and bound of the term activity enhancing amount and since all the elements are present there would inherently be a activity enhancing amount using the vague claim language.

In reference to the rejection of claims 1, 9-13 and 20-24 under 35 U.S.C. 103(a) as being unpatentable over Bogdanovic et al in view of Chem abs 246 (, Chem abs 789 (CA:77:164789) and Chem abs 844, applicant argues the deficiencies of Bogdanovic which were given above and the requirement of the addition of an additional catalyst component in the amount recited.

There is no specific amount cited and since the elements are all present and the reaction works then the catalyst component enhances the activity of something in the reaction.

In reference to the rejection claims 1-2, 5-6, 15, and 19 under 35 U.S.C. 103(a) as being unpatentable over Ramsden (US 2,777,885), Applicant argues that Applicants prior art patent stand as proof of the patentability of the use of a transition metal catalyst alone. Applicant also

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alleges that the present invention extends the protection to the use of combination of a transition metal catalyst and the additional catalyst.

Each case stands or falls on its own merit. The initial catalyst here is much broader in scope than the catalyst in the previous application and the wording in the independent claim and some of the dependent claims are such that they are obvious over the prior art cited. Since applicant has not directed comments to specific elements of the rejection given, the examiner will not comment further except to say that the rejection is maintained.

As for extending the protection to use a combination of a metal catalyst and the additional catalyst, the examiner notes again that the catalyst in the other application is not the same scope. Also it is unclear if the additional catalyst applicant is referring to is the catalyst component in claim 1 or the cocatalyst in claim 15 or are they the same?

In reference to the rejection of claims 1 and 20-24 under 35 U.S.C. 103(a) as being unpatentable over Ramsden in view of Chem abs 246 and Chem abs 523, Chem abs 789 and Chem abs 844, Applicant states that the deficiencies of Ramsden were pointed out above.

The examiner notes that the response to that argument is pointed out above. Applicant also states that the Examiner has again relied on the various Chemical Abstracts to show the activation for magnesium. However the claims, according to Applicant, require more than this they require an addition of an additional catalyst component in the amount recited.

Applicant has noted that the magnesium is activated and therefore the amount is sufficient for activation according to the claim. Also the catalyst component as written can be

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read to be a large variety of components which are found in Ramsden. The rejection is maintained for reasons of record and reasons stated above.

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

13. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr J F Vollano whose telephone number is (703) 305-4483. The examiner can normally be reached on Monday to Thursday from 6:30 to 5:00 .

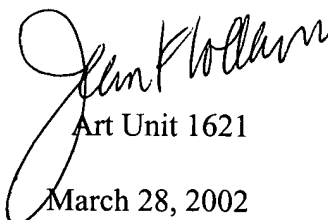
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15. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Johann Richter , can be reached on (703)308-4532 . The official fax phone number for the organization where this application or proceeding is assigned is (703)308-4556. It should be noted that the examiner cannot immediately work on a fax sent to this number.

16. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-1235.

Jean F. Vollano

Primary Examiner

  
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March 28, 2002